

CLAIMS

1. An organic electroluminescence element comprising:  
an anode;  
a first emitting layer comprising at least a first host material and a first dopant;  
a second emitting layer comprising at least a second host material and a second dopant; and  
a cathode in the order mentioned;  
wherein the energy gap  $E_{gh1}$  of the first host material, the energy gap  $E_{gd1}$  of the first dopant, the energy gap  $E_{gh2}$  of the second host material, and the energy gap  $E_{gd2}$  of the second dopant satisfy the following formulas; and  
the luminescent intensity  $I1$  at the maximum luminescent wavelength of an emission spectrum derived from the first emitting layer, and the luminescent intensity  $I2$  at the maximum luminescent wavelength of an emission spectrum derived from the second emitting layer satisfy the following formula:

$$E_{gh1} > E_{gd1}$$

$$E_{gh2} > E_{gd2}$$

$$E_{gd1} > E_{gd2}$$

$$I1 > 3.5 \times I2.$$

2. An organic electroluminescence element according to claim 1, wherein the following formula is satisfied:

$$I1 > 5 \times I2.$$

3. An organic electroluminescence element according to claim 1 or 2, wherein  $E_{gd2}$  is more than 2.7 eV.

4. An organic electroluminescence element comprising:  
an anode;  
a first emitting layer comprising at least a first host material and a first dopant;  
a second emitting layer comprising at least a second host material and a second dopant; and  
a cathode in the order mentioned:  
wherein the energy gap  $E_{gh1}$  of the first host material, the energy gap  $E_{gd1}$  of the first dopant, the energy gap  $E_{gh2}$  of the second host material, and the energy gap  $E_{gd2}$  of the second dopant satisfy the following formulas:

$$E_{gh1} > E_{gd1}$$

$$E_{gh2} > E_{gd2}$$

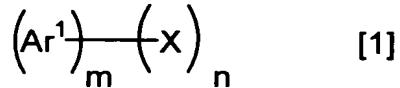
$$E_{gd1} > E_{gd2} > 2.7 \text{ eV.}$$

5. An organic electroluminescence element according to claim 1 or 4, wherein the ratio of the first dopant to the first host material is 0.1 to 10 mol% in the first emitting layer.

6. An organic electroluminescence element according to claim 1 or 4, wherein the ratio of the second dopant to the second host material is 0.1 to 10 mol% in the second emitting layer.

7. An organic electroluminescence element according to claim

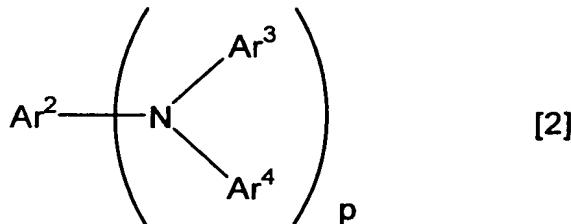
1 or 4, wherein at least one of the first host material and the second host material is a compound represented by a formula [1]:



wherein  $\text{Ar}^1$  is an aromatic ring with 6 to 50 nucleus carbons,  $\text{X}$  is a substituent,  $m$  is an integer of 1 to 5 and  $n$  is an integer of 0 to 6, provided that  $\text{Ar}$ s may be the same as or different from each other when  $m$  is 2 or more, and  $\text{X}$ s may be the same as or different from each other when  $n$  is 2 or more.

8. An organic electroluminescence element according to claim 1 or 4, wherein the first host material is the same as the second host material.

9. An organic electroluminescence element according to claim 1 or 4, wherein at least one of the first dopant and the second dopant is a compound represented by a formula [2]:



wherein  $\text{Ar}^2$  to  $\text{Ar}^4$  are a substituted or unsubstituted aromatic group with 6 to 50 nucleus carbons, or a substituted or unsubstituted stylyl group; and  $p$  is an integer of 1 to 4; provided that  $\text{Ar}^3$ s and  $\text{Ar}^4$ s may be the same as or different from each other when  $p$  is 2 or more.

10. An organic electroluminescence element according to claim

1 or 4, wherein the first emitting layer has a film thickness of 10 nm or more.

11. An organic electroluminescence element according to claim 1 or 4, wherein the luminescent intensity  $I_2$  at the maximum luminescent wavelength of an emission spectrum derived from the second emitting layer is 0.

12. An organic electroluminescence element according to claim 1 or 4, further comprising an electron injecting layer between the second emitting layer and the cathode, the electron mobility of the electron injecting layer being  $10^{-4} \text{ cm}^2/(\text{V} \cdot \text{sec})$  or more.

13. An organic electroluminescence element according to claim 12, wherein the electron injecting layer comprises one or more organic compounds comprising a nitrogen-containing heterocyclic derivative.

14. An organic electroluminescence element according to claim 13, wherein the organic compound(s) is/are an imidazopyrazine derivative and/or an imidazole derivative.